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| 10/699,104 | 10/31/2003 | Deia Salah-Eldin Bayoumi | ABDT-0576/B030280 | 1874 |
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| ABB INC. LEGAL DEPARTMENT-4U6 29801 EUCLID AVENUE WICKLIFFE, OH 44092 | | | EXAMINER JARRETT, RYAN A | |
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| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/699,104

Applicant(s)

BAYOUMI ET AL.

Examiner

Ryan A. Jarrett

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 21-30 are pending in the application and presented below for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 30 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 30 is generally directed to an abstract idea (§101 judicial exception). For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea. Diehr, 450 U.S. at 187, 209 USPQ at 8; Benson, 409 U.S. at 71, 175 USPQ at 676.

To satisfy section 101 requirements, the claim must be for a practical application of the §101 judicial exception, which can be identified in various ways: (1) The claimed invention “transforms” an article or physical object to a different state or thing, or (2) The claimed invention otherwise produces a useful, concrete and tangible result.

Practical Application by Physical Transformation

In the present case, claim 30 does not invariably “transform” an article or physical object to a different state or thing under all conditions.

Practical Application That Produces a Useful, Concrete, and Tangible Result

For eligibility analysis, physical transformation “is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application.” AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. In determining whether the claim is for a “practical application”, the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is “useful, tangible and concrete”.

Claim 30 is a condition-based claim, i.e., it is determined that the facility can manufacture the particular electrical device (condition is met) or it is determined that the facility cannot manufacture the particular electrical device (condition is not met). For such condition-based claims, a tangible final result needs to be achieved for each condition, i.e., when the condition is met and when it is not met. In this case, a tangible final result is achieved when the condition is met, i.e., transactional data stored in the ERP server is updated. However, a tangible final result is not achieved when the condition is not met, i.e., the final result of the claim is a “determining” step.

Under certain conditions, the final result of Claim 30 is directed to a method of “determining from said retrieved information whether said facility can manufacture said particular electrical device”. Specifically, determining that the facility cannot manufacture the particular electrical device. This claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally

occurring article/phenomenon) since it fails to produce a useful, concrete and tangible result.

Specifically, the claimed subject matter of does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter of claim 30 provides for "determining from said retrieved information whether said facility can manufacture said particular electrical device". This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value. The act of "determining from said retrieved information whether said facility can manufacture said particular electrical device" can be considered a thought, computation, or data manipulation.

Where the final result is what has been determined, calculated, selected, decided, adjusted, tracked, etc. without using what has been determined, calculated, selected, decided, adjusted, tracked, etc. in a disclosed practical application or at least making what has been determined, calculated, selected, decided, adjusted, tracked, etc. available for use through some form of conveyance (for example display, print, sound, transmission, etc.) or at least temporary storage somewhere, then a tangible result has not been achieved.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21-30 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Pierre et al. US 2005/0060048.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schleiss et al. US 2003/0014500 in view of Montminy et al. US 5946210.

Regarding claims 21-23, 25, and 28-30, Schleiss et al. discloses:

21. A method for controlling at least one machine operable to manufacture products, said method comprising the steps of:

providing a store of transactional data relating to products (e.g., Fig. 1 #30-48);

providing a store of design data for products (e.g., Fig. 1 #36, Fig. 1 #48: "PRODUCTION SCHEDULING", [0050]: "[A] system operator uses the production scheduling system 48 to schedule or create a batch campaign. Once the batch campaign is created, the production scheduling system 48 wraps the campaign information (e.g., batch ID, recipe, number of batches required, etc.) in an appropriate XML schema");

retrieving information from said store of transactional data (e.g., Fig. 1 #30, #38, #44, and #48, [0004]-[0006]);

producing a list of products that need to be manufactured based on said information retrieved from said store of transactional data (e.g., Fig. 1 #30: "ORDER PROCESSING", [0004]-[0006]);

selecting from said list a particular product that needs to be manufactured by said at least one machine (e.g., Fig. 1 #48: "PRODUCTION SCHEDULING", [0004]-[0006]);

retrieving design data for said particular product from said store of design data (e.g., [0050]: "batch ID, recipe, number of batches required");

using said design data to generate control data for controlling said at least one machine to manufacture said particular product (e.g., [0050]);

transmitting said control data to said at least one machine (e.g., [0025], [0026], [0050]);

receiving real-time information concerning the manufacture of said particular [electrical device] *product* from said at least one machine (e.g., abstract, [0006], [0009]-[0014], [0023], [0035], [0038], [0054]); and

updating said store of transactional data to reflect said received real-time information ([e.g., abstract, [0006], [0009]-[0014], [0023], [0035], [0038], [0054]).

22. The method of claim 21 further comprising:

transmitting order information for products over a network (e.g., Fig. 1 #30); and updating said store of transactional data (e.g., Fig. 1 #38, [0023]) using said transmitted order information.

23. The method of claim 22 wherein said transmitting of said order information is over the Internet (e.g., Fig. 1 #28).

25. The method of claim 21, wherein said information retrieved from said store of transactional data includes data relating to scheduling of multiple processes for manufacturing said particular product (e.g., Fig. 1 #48).

28. The method of claim 21, wherein said real-time information received from said at least one machine includes completion of an intermediary component of said particular

electrical device or the end of a process in the manufacture of said intermediary component ([e.g., [0006], [0023], [0035], [0038], [0054]).

29. The method of claim 21, wherein said at least one machine comprises a plurality of machines (e.g., [0025], [0026]).

30. A method for manufacturing products in a facility, said method comprising:

providing at least one machine operable to manufacture products (e.g., [0002], [0025], [0026]);

providing an order server (e.g., Fig. 1 #30) connected by a network to a data exchange server (e.g., Fig. 1 #52);

providing an enterprise resource planning (ERP) server for storing and providing access to transactional data relating to products (e.g., Fig. 1 #30-48), said ERP server being connected to said data exchange server (e.g., Fig. 1 #52);

providing a design data server for storing and providing access to design data for products (e.g., Fig. 1 #36, Fig. 1 #48: "PRODUCTION SCHEDULING", [0050]: "[A] system operator uses the production scheduling system 48 to schedule or create a batch campaign. Once the batch campaign is created, the production scheduling system 48 wraps the campaign information (e.g., batch ID, recipe, number of batches required, etc.) in an appropriate XML schema");

receiving an order for a particular product in said order server (e.g., Fig. 1 #30: "ORDER PROCESSING");

transmitting said order over said network to said data exchange server (e.g., Fig. 1 #30);

retrieving information from said ERP server (e.g., Fig. 1 #38: "PRODUCT INVENTORY CONTROL", #44: "PROCUREMENT", and #48: "PRODUCTION SCHEDULING", [0004]-[0006]);

determining from said retrieved information (e.g., Fig. 1 #38: "PRODUCT INVENTORY CONTROL", #44: "PROCUREMENT", and #48: "PRODUCTION SCHEDULING", [0004]-[0006]) whether said facility (e.g., Fig. 1 #14, #16, #22) can manufacture said particular product;

if said facility can manufacture said particular product, retrieving design data for said particular product from said design data server (e.g., [0050]: "batch ID, recipe, number of batches required");

using said design data to generate control data for controlling said at least one machine to manufacture said particular product (e.g., [0050]);

transmitting said control data to said at least one machine e.g., ([0025], [0026], [0050]).

receiving real-time information concerning the manufacture of said particular product from said at least one machine (e.g., abstract, [0006], [0009]-[0014], [0023], [0035], [0038], [0054]); and

updating said transactional data in said ERP server to reflect said received real-time information ([e.g., abstract, [0006], [0009]-[0014], [0023], [0035], [0038], [0054]).

Regarding claims 24, 26, and 27, Schleiss et al. discloses a process control system for manufacturing products. According to Schleiss et al., the process control system is like those used in "chemical, petroleum, or other processes" (e.g., [0002]).

Schleiss et al. does not specifically disclose that one of these "other processes" is a process for manufacturing electrical devices, or more specifically that the electrical devices are electrical transformers; wherein the information retrieved from said store of transactional data includes data relating to scheduling of winding, tank fabrication and processing; wherein the design data comprises electronic drawings.

However, it is well known that process control systems are commonly used to control the manufacture of electrical devices, such as semiconductor electronic devices. Moreover, Montminy discloses an automated system for configuring power converters, i.e. transformers; further comprising retrieving from a store of transactional data information relating to scheduling of winding, tank fabrication and processing (e.g., col. 2 line 32 – col. 5 line 64, col. 10 line 45 – col. 11 line 32); further comprising retrieving electronic drawing data from a store of design data (e.g., col. 2 lines 16-30).

Schleiss et al. and Montminy are analogous art since they both disclose transactional systems that are used to store information relating to the ordering, inventory, scheduling, designing, and manufacturing of products.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the system of Schleiss et al., which integrates transactional and real-time manufacturing information, to the transformer configuration system of Montminy et al. since Montminy et al. discloses that a transactional ordering system can be advantageously used by a customer to specify functional and physical requirements and selection criteria of a desired transformer. A transformer design and bill of materials generator in turn provides the user with a transformer configuration that meets the customer's needs and is optimized with respect to the specified selection criteria. Also, the transformer generator provides the customer with power converter configurations in "real-time", and through access to component availability and manufacturing scheduling data, the converter generator provides the user with accurate configuration availability dates (e.g., col. 5 lines 20-45).

Response to Arguments

Applicant's arguments filed 11/15/2006 have been fully considered but they are not persuasive.

Applicant argues that the recipe data of Schleiss et al. is not control data for controlling equipment. Examiner submits that a recipe is a set of instructions for making or preparing something, and thus does indeed constitute "control data".

Applicant argues that the term "transactional data", as used in the Schleiss et al. application, broadly means asynchronous data. However, Applicant is not presenting a complete picture of the Schleiss et al. reference. Rather, Applicant is selectively omitting key information. Schleiss et al. goes on to disclose,

"For example, an alarm that results in a request to order maintenance and/or parts needed by the process control system to repair a problematic device is transactional in nature. Another type of transactional data results from production scheduling activities. For example, a production scheduling transaction to batch execute a recipe may include a date, a time, a material type and quantity, a material purity, a feedstock type and quantity, a catalyst type and quantity, etc. Still another type of transactional data may involve a computerized maintenance management system, which uses information such as, for example, a tag, a time, a date, an alert (e.g., failed, maintenance, advisory, etc.), a description, a priority, a recommended action (e.g., replace the device), a device state (e.g., failure), etc."

This disclosure is entirely consistent with Applicant's definition of "transactional data", which is data relating to the business aspects of an enterprise, such as sales, planning, supply, etc. And, as disclosed in [0023] and [0034] for example, Schleiss et al. discloses that real-time equipment condition data and process condition data can be

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used to initiate activities within the transactional information technology systems, such as order processing systems, suppliers, customers, maintenance, etc.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yigit et al. US 2006/0031840 discloses a real-time monitoring manufacturing scheduling and control.

Yigit et al. US 2005/0040223 discloses a visual bottleneck management and control in real-time.

Eryurek et al. US 6,965,806 discloses an automatic work order/parts order generation and tracking in which work orders, parts or supply orders, etc. are automatically generated based on events occurring within the plant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

In view of the appeal brief filed on 11/15/2006, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

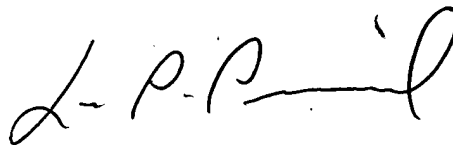
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(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Ryan A. Jarrett
Examiner
Art Unit 2125

2/22/07
RAJ

A handwritten signature in dark ink, appearing to read 'L. Picard', with a stylized flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100